

PROFESSION-ORIENTED ENGLISH LANGUAGE: TRAINING METHODS FOR FUTURE MINING ENGINEERS

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Abstract

This paper on the topic: The methods of teaching profession-oriented English for future mining engineers is written on a topical subject - the development of methods for teaching foreign languages in specialized universities focused on the training of narrow specialists. It analyzes the issue of practical training of mining engineers in the field of foreign languages. Various aspects of introduction of the algorithmic model of teaching a foreign language are considered. Different methods of providing interactive training in the technical university are offered. The paper pays enough attention to the specifics of the training of mining students; the issues of integrating language training into the system of forming the specialist of engineering qualification are investigated.

Proposals for the introduction of interactive methods in learning of foreign languages are accompanied by practical examples, are applicable and methodical in nature. The use of the techniques described in this article will help to improve students' motivation to learn foreign languages in a higher education institution; will promote a systematic approach to training the specialists in the mining industry.

Keywords: Learning, interactive methods, teaching methods, foreign languages.

Introduction

The rapid development of modern society demands from the student a rapid assimilation and understanding of the educational material, particularly, a foreign language. However, among all the variety of existing methods of teaching and information transfer, this process is not only a difficult but also a routine task, which, in turn, leads to the loss of the student's motivation for the entire learning system. Considering such circumstances, it becomes necessary to apply methods and technologies that allow showing creative abilities, to reveal original ideas, to facilitate and diversify the study of a foreign language in non-specialized (non-linguistic) faculties of universities.

According to G. Martynova, it is necessary to create a system of teaching foreign languages that "by taking into account the universal psychological patterns of the assimilation process of a certain educational material and universal didactic laws of organizing a particular teaching process, would be acceptable to most people regardless of their age and abilities" [7, p. 31]. The new education system requires new approaches to the organization of the educational process, the improvement of approaches and methods of teaching individual subjects.

The aim of this article is to determine the efficiency and rationale for using a number of interactive methods in teaching English to students of mining specialties, disclosing the knowing of these approaches as means of intensifying, optimizing and stimulating the teaching process.

Body of the paper

Theoretical analysis and practice of education for students of mining specialties show that an organic connection has not yet been established in the process of teaching between fundamental and special courses. Therefore, the organization of the educational process of mining specialties requires a integrated algorithmic approach (IAA), where the educational material has a professional orientation and algorithmic structuring for a set of program courses (for example, in cycles: natural science - physics, mathematics, computer science, humanitarian - foreign language (English), special - professional safety in the sphere of mining, mine ventilation, mine design). For the educational process of training future mining engineers, it is an issue of teaching conditions and methodological bases for the development of algorithms for disciplines. This will ensure a new quality of training specialists using computer and information technologies.

The core of the integrated algorithmic approach is structural certainty and consistency over time, the content of all studied in specific algorithms that reflect the methodology of courses and current mining production.

The aim of basic development of the IAA is the establishment of didactic specifications that allow the formation of an effective algorithmic approach in the training process for the training of mining engineers using computer tools and information resources in accordance with the latest education standards.

Thus, in the educational process, the structure of the algorithmic approach is used in the presentation and organization of the study of educational material, the construction of which corresponds with the fractal composition. In addition, information communication is performed in time by integrating the elements and modules of the educational material with the only integrated approach of targeted training for future mining engineers.

The main didactic component of the integrated algorithmic approach is the algorithmic structure of the educational information of the course module in the process of training a qualified mining engineer. This component demands from the teacher to have a clear understanding of how his (or her) subject shapes the student as a future mining engineer. In connection therewith, we expanded the functional purpose of the algorithm from the "action algorithm" to the "content algorithm". An information algorithm, for example, the information algorithm of the course module (in short, the "module algorithm", the "course algorithm") is a certain sequence of information content, on the basis of its perception, understanding, and impressions.

An integrated algorithmic approach to teaching foreign languages to future mining engineers is a certain concentration of interrelated didactic principles: the integrity (integrated) of the system of profession-oriented teaching, combined with fundamental and professionalism: structural certainty in time and space of educational activities of teachers and students at the university, in view of specialization. According to integrated algorithmic approaches, the academic course, which is studied by a student of mining specialty, must necessarily have algorithmic modules of educational, profession-oriented information on the future engineering activities of a mining specialist.

The main program information of the course and additional profession significant material in the algorithmic form mutually reinforce each other, exacerbating the perception of the student, carry out a certain individualization of education in the course of processing the information using computer tools.

The main thing in integrated algorithmic profession-oriented teaching – is not just to tell students of mining specialties a certain amount of knowledge, but to teach them how to use the methods of this knowledge in practice. The student should bring out all his skill in using the methods of knowledge obtained in the courses. Most importantly, having mastered the methods of obtaining information, the student must be able to operate with these methods in his professional activities. By using interactive teaching methods, the language teacher is integrated into the common training algorithm of the mining engineer.

Active and interactive technologies promote, on the one hand, to the increasing and improvement of knowledge, on the other hand - the imitation of individual and collective professional activities. In addition, its develop creative efforts, independence in solving problem situations, produce positive aspects of the dynamic stereotype of the future specialist (organizational, professional skills, ability to manage, to communicate) [15, p. 59], which is especially important for mining students.

The use of interactive forms of teaching in the learning of foreign languages by mining students will be effective if the content of the educational process will have something in common with the future professional activity of students. The teacher should take into account the level of language proficiency of students, the level of communication skills. We must ensure that the theoretical knowledge in the process of active learning becomes conscious, so that the student develops and improves not only knowledge of the language, but also could connect them with the future profession.

Education will be effective in the event that:

- in the formation of the teaching purpose, the interests of the listeners are taken into account;
- it meets their critical needs and students are deeply engaged;
- is related to their past and present experience;
- participants are actively involved in the learning process and manage it themselves;
- created an atmosphere of mutual respect [15 p. 65].

Interactive methods provide for the organization and development of dialogic communication, which leads to a common solution of common but significant for each participant tasks [6, p. 90]. Interactive excludes the dominance of one thought over another. During the dialogue, students critically think, solve complex problems based on an analysis of circumstances and relevant information, weigh out alternative opinions, participate in discussions, and communicate with other people. To that end, individual, pair and group work is organized in the classes, research projects, role games are being used, work is being done with documents and various sources of information, creative works are used etc.

When calendar hours are limited, the most effective for assimilation process the linguistic material and students' interest in the learning process are the project method, the brainstorming method and the method of business role-playing games.

American teacher V. Kilpatrick proposed the method of project-based learning at the beginning of the 20th century. The main purpose of this method was to provide students with the opportunity to obtain knowledge

independently in the process of solving practical problems and problems that prompted the search for necessary information in various scientific sources.

Projects have some common features:

- use of the language in communicative situations, close to the real conditions of communication;
- a motivation of students to work independently (individual or group work)
- search and selection of the project topic, which is of the greatest interest to the students and is directly related to the conditions in which the project is being implemented;
- search for language material, types of tasks and workflow in accordance with the topic and purpose of the project;
- visual display of the final result [12, p. 25].

The main feature of all projects is its positive motivation. However, why is project learning becoming so motivating? There are three reasons for this. Firstly, the project is an individual work, where students describe their life, their family, city, dreams, their own observations, and research. In other words, they have the opportunity to tell the world more about themselves. Secondly, the project work is a very active intermediary. Students not only become familiar with the dictionary, which they use, they are:

- collect information;
- draw maps, drawings, diagrams, make plans;
- group texts, use visibility;
- conduct surveys, interviews, conduct research, and make notes [3, p. 32].

Project work is learning through action. Finally, the projects give full sense of something achieved, the opportunity to get some final product. This characteristic of the project work is very suitable for a class with different abilities, because students can work in accordance with their level and academic achievement. Empowered students can show what they know independently of the program or plan when the weak ones can achieve what they can be proud of by compensating for a low level of language proficiency by showing video or visibility.

The bottom line in using the method of project-based learning in a foreign language class is the opportunity to formulate a problem that students will solve in the process of studying the program topic. Examples to illustrate may be the following tasks for project work:

1. "A lifestory", "Personal details", "Personality questionnaire"
(To topics: "Biography", "About my family and myself", "Character and appearance ")
2. "My favourite movie/cartoon", "Create your own musical band"
(To the theme "Entertainment", "Cinema", "Music")
3. "Healthy food", "Plan your dinner", "My favorite recipe/dish" (to the theme "Meals").

The following project topics can be used:

- Sports, which are popular or affordable for students;
- A guide to recreational facilities of the city with hours, rates and other essential information;
- A collection of essays on cultural aspects of your town, as perceived through the eyes of the student.
- The history of the city area, with each team of students describing a different area.

The method of brainstorming, "attributed evaluation") was proposed by J. Donald Phillips (USA). It is applied when the collective faces the problem of finding new solutions, new approaches to the situation. Brainstorming can significantly increase the efficiency of generating new ideas in a large audience (20-60 people). Its main task is to find a series of solutions to one problem in a short period.

The brainstorming method encourages students to offer new and original ideas through a ban on criticism from the teacher or other members of the group at the stage of generating ideas. At this stage, attention is focused only on the number of ideas, and not on quality. After the stage of primary generation, the ideas suggested by the students can be grouped, evaluated, postponed for further study and selected those ideas that seem most effective for solving a particular problem.

Stages of brainstorming:

1. Formulation of the educational problem, justification of the problem solution.
2. Express warm-up.
3. "Attack" of the problem.
4. Discussion of the results.
5. Selection and evaluation of the best ideas.
6. Report on the results of the brainstorm ("attack") in order of priority.
7. Public defense of the best ideas [3, p. 31].

The results of the students' work involved in this type of activity depend on the choice of the problem topic. Students express the maximum number of bright and original ideas if the solution of the problem has a practical value. For example:

Topic: "My future profession"

1. Where does a working person spend a day?
 * In the office * in the driving seat * behind the counter
 * In the hospital * at home * at the plant
2. Where does a student spend a day?
 * Faculty * lecture * college * seminar
 * University * campus * high school * vocational school
3. What can the work be?
 * Challenging * monotonous * boring
 * Rewarding * demanding * repetitive

Students with a higher level of proficiency in a foreign language can use a complicated form of the task for the same topic:

1. Give as many as possible reasons why you'd like to be a lawyer (economist, lecturer, sportsman etc.):

- a) this job is well-paid;
- b) it helps people to solve their problems;
- c) it is rather prestigious now.

2. Give as many as possible reasons why you'd hate (dislike) to be a journalist (economist, lecturer, sportsman etc.):

- a) this job sometimes does more harm than good;
- b) it involves meeting too many people;
- c) it needs too much writing.

The method of brainstorming has its advantages and disadvantages. In particular, not all ideas proposed by students will prove successful, which is not a motivating factor. However, it is necessary not to discard them in the learning process, but to apply it in the context of solving other problematic situations.

A role-playing game as an activity involves finding the goal, planning, realizing the goal, as well as analyzing the results where the person fully realizes himself as a subject. A motivation of game activity is provided by its voluntariness, possibilities of a choice and elements of competition, a satisfaction of the requirement for self-affirmation, self-realization.

As A. Kapskaya notes, role-playing games are "a kind of key to the development of creative abilities of students, whose actions create excellent conditions for self-discovery of the personality, the development of skills to think logically, to act in word and deed. Games activate each participant's potential creative abilities, which can occur only under certain conditions. For example, to gain "body freedom" for addresses in front of an audience, or "singing voice", or observation, or listening skills" [4, p. 98].

E.M. Dianova believes that the game (role-playing, business, organizational-activity) is the most optimal and convenient form of teaching, it has practical application. "The game, like no other active form, allows the student to go through the main stages of assimilation process of the material – perception, comprehension, memorization, application" [2, p. 14]

The role-playing game helps to communication, contributes the transfer of acquired experience, the production of knowledge, the correct assessment of actions.

It develops communication skills, memory, thinking and imagination.

Role-playing games have four main features [14, p. 117]:

- free developing activity, begins only at the desire of the person, for the pleasure of the process activity (procedural pleasure)
- creative, largely spontaneous and vigorous activity ("Field of creativity");
- emotional elation of activity and emotional strain;
- the existence of direct or indirect rules reflecting the content of the game, the logical sequence of its development.

In the foreign language classes, the role-playing game allows mining students to expand their associative base while learning the linguistic material. For example, the phrase of "Who is absent today?" which students perceive mechanically, acquires significance in the role-playing game. A student who performs the role of a teacher at a school appeals to another student, playing the role of a lazy student, with a question that expresses reproach, resentment and even threat. Emotion, which now accompanies this phrase, gives it elements of natural uniqueness, establishing direct links with the situation and creating favorable conditions for memorization.

During the role-playing game, the mining students will have to solve various problem situations that promote the use of a foreign language, not only for everyday communication but also for solving professional problems. Providing the formation of appropriate types of speech activity, its help to realize the main function of learning a foreign language in a university - the formation of a professional communicative competence among students. For example, the following variants of problematic tasks can be cited:

- You paid a TV repair shop to fix your television, but they did not fix it. Now they refuse to give your money back. You have an opportunity to speak to the representative of the Better Business Bureau.
- Someone has just stolen your wallet. Go to the police station and describe the person that you think stole it.
- Imagine foreign guests are coming to your city and you have to accompany them. First, you are to make reservations. Find out where the best hotels are in this city.

Conclusion

A significant advantage of the role-playing game over other forms of training is the full activity of students, as well as the concentration of participants' attention throughout the game. And although role-playing games somewhat simplify the learning process, violate discipline and contribute to increasing student's mistakes, their didactic, educational and practical value can not be ruled out.

Thus, the project method, the brainstorming method and the method of business role-playing games are characterized by the high effectiveness of assimilation process the material. In the process of work, the mining students develop not only organizational, but also methodological, and game-technical skills.

The undoubted advantage of these interactive methods of teaching towards others is that its "require activity from each participant in the class, remove emotional and communicative barriers, promote the acquisition and formation by students not only professional but also certain personal qualities: comprehensiveness, diligence, initiative, community spirit, creativity, communication, etc. [8, p. 15].

After analysing of the above interactive methods of teaching that are used in the process of learning a foreign language, it may be concluded that its give students the opportunity to identify problems, collect and analyze information, find alternative solutions and choose the most optimal way of solving problems in the process of both individual and group work.

Brief biography of the author

Alexandra Polinovskaya is a Professor of English, Department of Foreign Languages from Saint Petersburg Mining University of Russia. Alexandra was kindly invited to teach English courses for future mining engineers and potential PhD students a year ago. She came back to Russia, her mother country, after leaving and working in education for 10 years in the USA. Teaching methods described by the author is a personal experience of teaching gained in top schools in the USA and Russia as well as educational background in both countries. She has MA degree in Education in major of English as a Foreign Language.

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